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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/580,082

03/08/2007

Jacques Fonkenell

BEAUMONT-36

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09/20/2010

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EXAMINER

NGUYEN, NINH H

ART UNIT

PAPER NUMBER

3745

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/580,082	<b>Applicant(s)</b> FONKENELL, JACQUES	
	<b>Examiner</b> Ninh H. Nguyen	<b>Art Unit</b> 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-9 and 11-13 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller (4,064,403).

Miller discloses a turbine for a hydroelectric power plant (Figs. 1-7) comprising a helix-shaped wheel 12, wherein the wheel comprises a diameter and rotational speed which are capable of being configured to produce a target ratio K between the kinetic energy of the water flow having a velocity (V) coming out of the wheel and the potential energy of the head (H) of the water stream entering the wheel is defined by the relationship  $K = (100V^2)/2gH$ , wherein K is smaller than 20%.

Regarding claim 4, the turbine further comprising: a carter 7 crossed by an opening comprising a cylindrical portion (Fig. 1) the wheel 12 comprising blades 14 arranged at the level of the cylindrical portion; a hub 13 on which the blades 14 are assembled; a fixed box 15, the hub being rotatably assembled on the fixed box; and a distributor (left portion of the housing 18; Fig. 1) upstream of the wheel with respect to the water flow and comprising profiles 17 connecting the fixed box to the carter.

Regarding claim 7, the turbine further comprising means for orienting the blades (the blade being adjustable; col. 2, lines 62-63; col. 3, lines 1-3).

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3. Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Kao (4,441,029).

Kao discloses a turbine for a hydroelectric power plant (Figs. 1-5) comprising a helix-shaped wheel 7, wherein the wheel comprises a diameter and rotational speed which are capable of being configured to produce a target ratio K between the kinetic energy of the water flow having a velocity (V) coming out of the wheel and the potential energy of the head (H) of the water stream entering the wheel is defined by the relationship  $K = (100V^2)/2gH$ , wherein K is smaller than 20%; wherein the turbine does not require a draft tube arranged downstream of the turbine (col. 3, lines 45-49).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller.

Miller discloses all the limitations except the diameter of the wheel is not greater than 3 meters and the rotation speed of the wheel is not lower than 50 revolutions per minute as claimed.

Since sizing the diameter of a turbine wheel and determining the rotational speed to yield required flow rates and flow velocities is well within ordinary skill of a person in the art (as admitted by Applicant in the "Remarks" section of the amendment dated 07/19/2010), it would

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have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the turbine of Miller with the diameter of the wheel being greater than 3 meters and with a rotation speed of lower than 50 rpm to produce a required flow rate and flow velocity.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miller in view of Rojo et al. (4,629,904).

Miller discloses all the limitations except a hydraulic pump driven by the wheel as claimed.

Rojo teaches a hydraulic turbine power generation system comprising a hydraulic turbine driving a hydraulic pump system including a hydraulic motor driven generator to protect the same from flooding (col. 2, lines 8-14).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to make the turbine of Miller with a hydraulic pump system driven by the wheel for the purpose of protecting the generator from flooding damage as taught by Rojo.

7. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant admitted prior art.

According to Joachim Raabe's work as discloses on pages 2 and 3 of the specification, a method of operating a hydroelectric power plant in which the turbine is configured such that the relationship between the ratios K and head heights for conventional Kaplan turbine are 30%, 50%, and 80% for 70m, 15m, and 2m, respectively. Further, Applicant admitted that it is well within ordinary skill of a person in the art to size the diameter of the turbine wheel and corresponding rotational speed based on known head heights and K ratios. This indicates that

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persons in the art routinely configuring hydraulic turbines with various K ratios for the purpose of improving turbine design.

However, Applicant admitted prior art does not disclose configuring a turbine to achieve the K ratio of less than 20% as claimed.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made, to configure a turbine of a hydroelectric power plant to achieve a K ratio of less than 20% and sizing the turbine wheel diameter and determine corresponding rotational speed for experimentation purposes.

#### *Allowable Subject Matter*

8. Claims 5, 6, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### *Conclusion*

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Ninh Nguyen whose telephone number is (571) 272-4823. The examiner can be normally reached on Monday-Friday from 7:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached at (571) 272-4820. The fax number for this group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, please go to <http://pair-direct.uspto.gov> or contact the Electronic Business center (EBC) at 866-217-9197 (toll-free).

/Ninh H. Nguyen/  
Primary Examiner, Art Unit 3745

Nhn  
9/17/2010